

Translation

PATENT COOPERATION TREATY

PCT/FR2003/003278



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 28768	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/FR2003/003278	International filing date ( <i>day/month/year</i> ) 04 novembre 2003 (04.11.2003)	Priority date ( <i>day/month/year</i> ) 07 novembre 2002 (07.11.2002)
International Patent Classification (IPC) or national classification and IPC C07C 233/18, 233/36, 233/60, C07D 207/27, A61K 31/16, 31/40, A61P 25/00, 3/00		
Applicant LES LABORATOIRES SERVIER		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of \_\_\_\_\_ sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 14 mai 2004 (14.05.2004)	Date of completion of this report 16 December 2004 (16.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
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## I. Basis of the report

1. This report has been drawn on the basis of *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.)*:

☐ the international application as originally filed.

☒ the description, pages 1-25, as originally filed,  
pages \_\_\_\_\_, filed with the demand,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. 1-19, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☐ the drawings, sheets/fig \_\_\_\_\_, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, Nos. \_\_\_\_\_

☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1-19	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-19	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

**2. Citations and explanations**

Reference is made to the following document:

D1: EP-A-0 919 541 (ADIR) 2 June 1999 (1999-06-02)

1. D1, which is considered the prior art closest to the subject matter of claims 1 and 16, describes phenyl-naphthalene derivatives in which the phenyl grouping may be substituted with one or more halogen atoms or alkyl, trialkylhalide, hydroxy, alkoxy, nitro, amino, cyano, carboxy, alkylcarbonyl or aminocarbonyl groupings.

Therefore the subject matter of claims 1 and 16 differs from these known compounds in that the phenyl grouping is substituted (i) with a  $-\text{CH}_2\text{R}_4$  grouping,  $\text{R}_4$  representing a halogen atom or a hydroxy, alkoxy, amino grouping (claim 1), or (ii) with an alkyloxycarbonyl grouping (claim 16).

Therefore the subject matter of claims 1 to 19 is novel (PCT Article (33(2))).

2. The present application does not meet the requirements of PCT Article 33(1) since the subject matter of claims 1 to 19 does not involve an inventive step within the meaning of PCT Article 33(3).

The compounds according to claims 1 and 16 are neither described or presented as having unexpected advantages or advantageous properties which the D1 compounds would not have had.

The problem addressed by the present invention can thus be considered that of providing other phenyl-naphthalene derivatives having affinity for melatonin receptors and/or selectivity for one or other of the melatonergic binding sites.

For the following reasons, the solution proposed in claims 1 and 16 of the present application is not considered inventive (PCT Article 33(3)):

The replacement of a phenyl grouping substituted with one or more halogen atoms or alkyl, trialkylhalide, hydroxy, alkoxy, nitro, amino, cyano, carboxy, alkylcarbonyl or aminocarbonyl groupings (possibly substituted with one or two (C1-C6) linear or branched, identical or different alkyl groupings) with a phenyl grouping substituted (i) with a  $-CH_2R_4$  grouping,  $R_4$  representing a halogen atom or a hydroxy, alkoxy, amino grouping (claim 1), or (ii) with an alkyloxycarbonyl grouping (claim 16) is a minor modification which would be routine practice for a person skilled in the art. Therefore the subject matter of claims 1 and 16 does not involve an inventive step.

The same argument applies *mutatis mutandis* to the subject matter of corresponding independent claims 15 and 17, which are thus not inventive either.

Dependent claims 2 to 14 do not contain any features which, combined with those of any of the claims to which

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they refer, might define subject matter that would meet the PCT inventive step requirements; see D1 and the relevant passages cited in the search report.